

Auto-Feeders in Group-Housed Calf Systems



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December 12, 2012
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Outline of the talk

- Is group housing right for you?
- Practical questions to determine barn design, pen numbers, size, and what machine is best for you
- The specifics of auto-feeders
 - What can they do?
 - Recommended plans and settings
 - Troubleshooting

Why are you interested in group housing?

- ✘ To reduce labor in the calf barn
- ✘ To avoid feeding calves outdoors in the winter
- ✘ To have a better excuse of why calves are dying
- To increase labor efficiency
- To improve their welfare and social interactions
- To have a smoother transition
- To maximize the growth potential of the calves
- To positively influence their future performance

Are you ready for group housing?

- How much milk/milk replacer do you feed your calves?
 - How much are you willing to feed them?
- Do you have a standardized method to detect sick calves?
 - Is this method dependent upon manure consistency?
 - Is it dependent upon aggressiveness at feed time?
- Is your colostrum program bulletproof/laborproof?
- How many calves do you raise per month?

What is the right group housing plan for you?



- Are you retro-fitting existing facilities?



- Are you building new?



You decided to use an auto-feeder...



- Determine the flow of calves through the pens: all-in/all-out or continuous flow?
- How much space do you have/need per pen?
- At what age will the calves join the group pen?
- When are you planning on weaning?
- Are you feeding milk or milk replacer?
- Do you need/want bells and whistles?

Determine the flow of calves through the pens: all-in/all-out or continuous flow?



Just like any other decision taken within a dairy, there is no one answer that fits all. Let's consider:

- Number of calves going through the system every month
- Total number of pens/nipples available
- Bedding and cleaning of pens
- Disease control

Determine the flow of calves through the pens: all-in/all-out or continuous flow?



All in/all out

- Easier to control disease
- Uniform groups
- Reduces competition
- Easier to clean/sanitize
- Requires larger number of calves
- Requires more pens/nipples and machines

Continuous flow

- Easier to implement with low # calves/pens
- Older calves teach younger calves
- Design pens for small and large calves
- Pens are never empty for cleaning/bedding
- Competition has to be managed, specially around weaning
- Disease outbreaks have to be dealt with promptly

How much space do you have/need per pen?



Standard recommendation is:
25 sq ft bedded, 35 sq ft total area per calf

➤ These numbers are dependent on:

- Pen design
- Frequency of cleaning
- Type, amount and frequency of bedding



At what age will the calves join the group pen?



- The earlier they go in the pen, the faster they enjoy the benefits of group housing
- Dependent on age differences among calves



When are you planning on weaning?



- The weaning process should be designed to encourage solid feed intake
- Age differences among calves should be considered when designing a weaning strategy
- Weaning after 56 to 58 days requires more nipple space per calf

Are you feeding milk or milk replacer?



- If you have enough waste milk, there are areas of opportunity within the dairy
- You can choose to pull milk from the tank, but this should still be pasteurized
- Some machines can handle both sources of milk while some can only handle one
- If you are using a combination, feed milk replacer to the younger calves and waste milk to older calves

Do you need/want bells and whistles?



- It is nice to have the machine that can do it all...
 - Do you need it?
 - Is this the best use of resources?
- What do you give up when getting the bells and whistles?

Let's get into the specifics...



- Auto-feeders allow "individual" management within groups
- They still require management
- Many different options in the market:
 - DeLaval, Lely, Westfalia, Holm & Laue, Urban, etc.
- Auto-feeders generate a lot of data
 - Focus on what is practical on a day to day basis
 - Consumption, drinking speed, visits and breaks

Machine plans



- Account for the age of the calf at the time it is registered to the machine
- Multiple feedings are good, but there is such a thing as too many...
- Don't start a feeding plan lower than what the calves are receiving with the bottles
- Concentration and allowance per visit is more important than total volume
- Keep it simple

Machine plans



Quantity			
Period	Days	Start quantity	Final quantity
1	14	6 liters	10 liters
2	23	10 liters	10 liters
3	2	10 liters	5 liters
4	9	5 liters	3 liters
Total	48		

Limitation			
Period	Days	Start quantity	Final quantity
1	14	2 liters	2.5 liters
2	34	2 liters	3.5 liters
Total	48		

Concentration			
Period	Days	Start quantity	Final quantity
1	48	150 grams	150 grams

Common problems



- Calibration is incorrect (hasn't been done or caking in the dispenser)
- Solids too high
- The hoses to the nipples are frozen
- Lack of water, powder or electricity
- Upper allowance limit too low
- Too many calves of different ages
- Cleaning cycle, using the wrong soap
- Facilities and management do not match expectations

Another management tool...

